

Amendments to the Drawings

The attached two sheets of drawings includes changes to Figs. 1 and 6. The first sheet, which also includes Fig. 2, replaces the original sheet including Figs. 1 and 2. In Fig. 1, the legend "Prior Art" has been added. The second sheet replaces the original sheet including Fig. 6 and adds the legend "Prior Art" to Fig. 6.

Attachments: Replacement Sheets (2)
 Annotated Sheets Showing Changes (2)

Remarks/Arguments

Reconsideration of this application is requested.

Extension of Time

A request for a three month extension of the period for response to the office action mailed on November 17, 2005 is enclosed. The extended period for response expires on May 17, 2006.

Drawings

Figures 1 and 6 are objected to under MPEP 608.02(g) as lacking the legend "Prior Art". In response, Figures 1 and 6 are amended to include the legend "Prior Art". Replacement and annotated sheets showing these amendments are attached.

The Action further objects to the drawings under 37 CFR 1.83(a) and asserts that every feature of claims 3-7 and 13-17 is not shown in the drawings. In particular, the Action asserts that a circuit board having a maximized trace width (claims 3-5 and 13-15) and a heavy ground having a 1-2 inch length of 16-12 gauge wire (claims 6 and 7) or 18-10 gauge wire (claims 16 and 17) is not shown. Applicant respectfully traverses these objections.

Figure 3 includes a ground 20 having thicker portions, along with a designation that "Thick lines indicate maximized trace width or copper pour". Thus, Figure 3 clearly depicts "maximized trace width" as claimed in claims 3-5 and 13-15. Moreover, it is well known to those of skill in the art that "trace width" refers to the width of a conductor, typically copper, on a printed circuit board. Applicant respectfully submits that it is well understood that the trace lines of Fig. 3 would be on a printed circuit board, and that the depiction of circuitry lines along with descriptions of their trace widths is inherently an illustration of a printed circuit board.. Applicant further notes that it is common practice that patents issued by the USPTO show circuit configurations including trace lines, while the actual physical printed circuit board on which the trace lines and other circuit elements are laid out is rarely depicted.

With respect to the features of a 1-2 inch length of 16-12 gauge wire or 18-10 gauge wire, applicant clearly shows this feature in Figure 3 as ground 20. There is no requirement that the drawings be drawn to scale. Thus, there is no requirement of actually showing a 1-2 inch length section of wire. Applicant further submits that a depiction of ground 20 in Figure 3, along with description in the specification that it is comprised of 16-12 gauge wire or 18-10 gauge wire, is sufficient. This is a type of wire that is not amenable to illustration, and applicant submits that it is not necessary to depict its actual physical dimensions in the drawings.

Specification

The specification is objected to as making no reference to Figs. 4 and 5. In response, paragraph [0046] (page 13, line 22 – page 14, line 7) is amended as suggested in the Action.

Claim Status

Claims 1-20 were presented. Claims 1, 4, 5, 11 and 14 are amended. Claims 10 and 20 are canceled, without prejudice. Claims 1-9 and 11-19 are now pending.

Claim Objections

Claims 3-7 and 13-17 are objected to as containing subject matter not supported by the specification. In response, paragraph [0036] (page 10, lines 4-8) is amended as permitted by MPEP 2163.06 to include the claimed subject matter. The claims are part of the original disclosure and the specification may be amended to include the claimed subject matter and provide proper antecedent basis. MPEP 2163.06; *In re Benno*, 768 F.2d 1340, 226 USPQ 683 (CAFC 1985).

The Action further objects to claims 3-5 and 13-15 as indefinite and asserts that the phrase “maximum trace width” is vague. Applicant respectfully traverses the objection. The phrase “maximum trace width” is not used. Rather, the phrase “*maximized* trace width” is used. With reference to paragraph [0036], as amended, this phrase means a ground connection having a relatively large cross-sectional area to withstand large lightning surges.

Claims 4 and 5 are amended as suggested to read "...the heavy ground for the one...".

Claims 10 and 20 are objected to under 37 CFR 1.75(c) as failing to further limit that subject matter of claims 9 and 19 from which they depend. In response, claims 10 and 20 are canceled, without prejudice.

Claim 14 is amended as suggested to depend from claim 11 rather than from claim 1.

Claim Rejections – 35 USC 103

Claims 1-7 and 11-17 are rejected under 35 USC 103(a) as obvious over Stapelfeld (US 6,360,698) in view of Luu (US 5,625,521). In response, independent claims 1 and 11 are amended to clearly distinguish over Stapelfeld and Luu. In particular, claims 1 and 11 are amended to recite that the heavy ground has:

...a relatively large cross-sectional area to withstand large lightning surges and a relatively short length to reduce impedance of the interconnection to ground to a minimum value.

Neither Stapelfeld nor Luu contains a disclosure or suggestion of a heavy ground configured in this manner. With respect to applicant's related limitations in claims 3-5 and 13-15, which recite maximized trace widths for impulse protection, the Action acknowledges that there is no such disclosure in either Stapelfeld or Luu, but asserts that it would be obvious to provide maximized trace widths withstand higher voltages.

Applicant respectfully traverses the Examiner's reliance on "common knowledge" in rejecting claim elements that are not shown by the prior art. As described in applicant's specification (e.g., paragraph 0004), the dual problems of protection of the transmitter from large lightning surges as well as from AC power surges was an unresolved problem in the art, as evidenced by the frequent destruction of transmitters in such systems. Applicant's claimed system resolves this problem by providing, in combination with the other claim elements, a heavy

ground that interconnects the loop antenna ground and power circuit ground. Claims 1 and 11, as amended require that the heavy ground have a relatively large cross-sectional area to protect against lightning surges and a relatively short length to minimize impedance.

These claim limitations are not shown by any of the cited art and solve a lingering issue in this field. In view of the lack of any references showing applicant's claimed solution, applicant challenges the Examiner's reliance on "common knowledge" and, under MPEP 2144.03, requests that the Examiner either provide prior art authority or citations to support this reliance on common knowledge, or withdrawn the rejections.

Claims 8-10 and 18-20 are rejected under 35 USC 103(a) as obvious over Stapelfeld in view of Luu and Dix (US 4,996,945). Dix is cited for its relevance to Zener diodes and a gas tube, and does not remedy the deficiencies of Stapelfeld and Luu as discussed with reference to claims 1 and 11 above.

For these reasons, applicant submits that the rejections of claims 1-9 and 11-19 under 35 USC 103(a) should be withdrawn.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is urged to call the undersigned to resolve any issues that remain after entry of this amendment. Any fees due with this response, including the fee for a three month extension of time, may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

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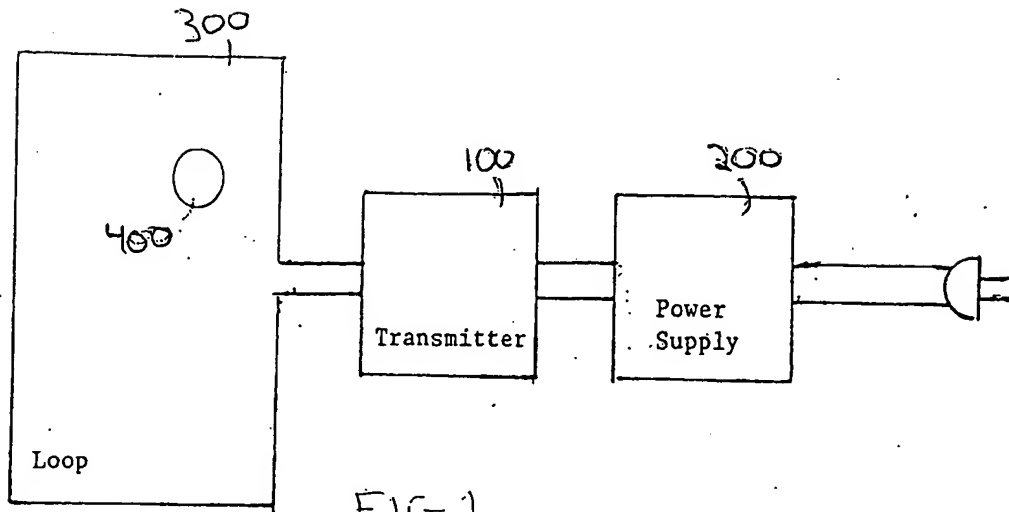


FIG 1
"PRIOR ART"

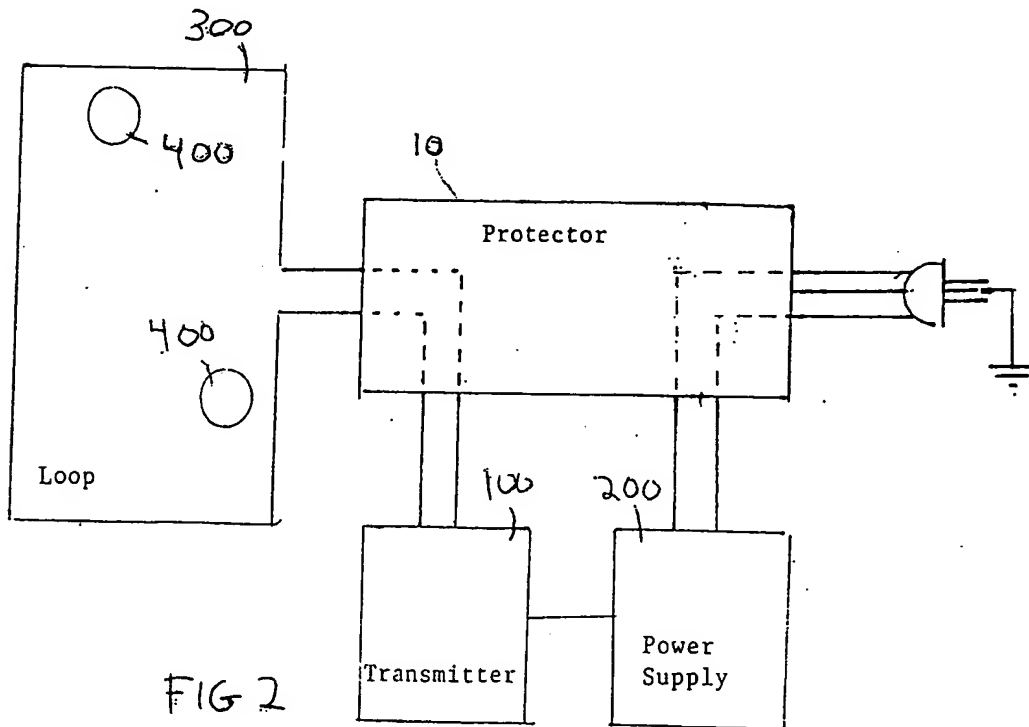


FIG 2

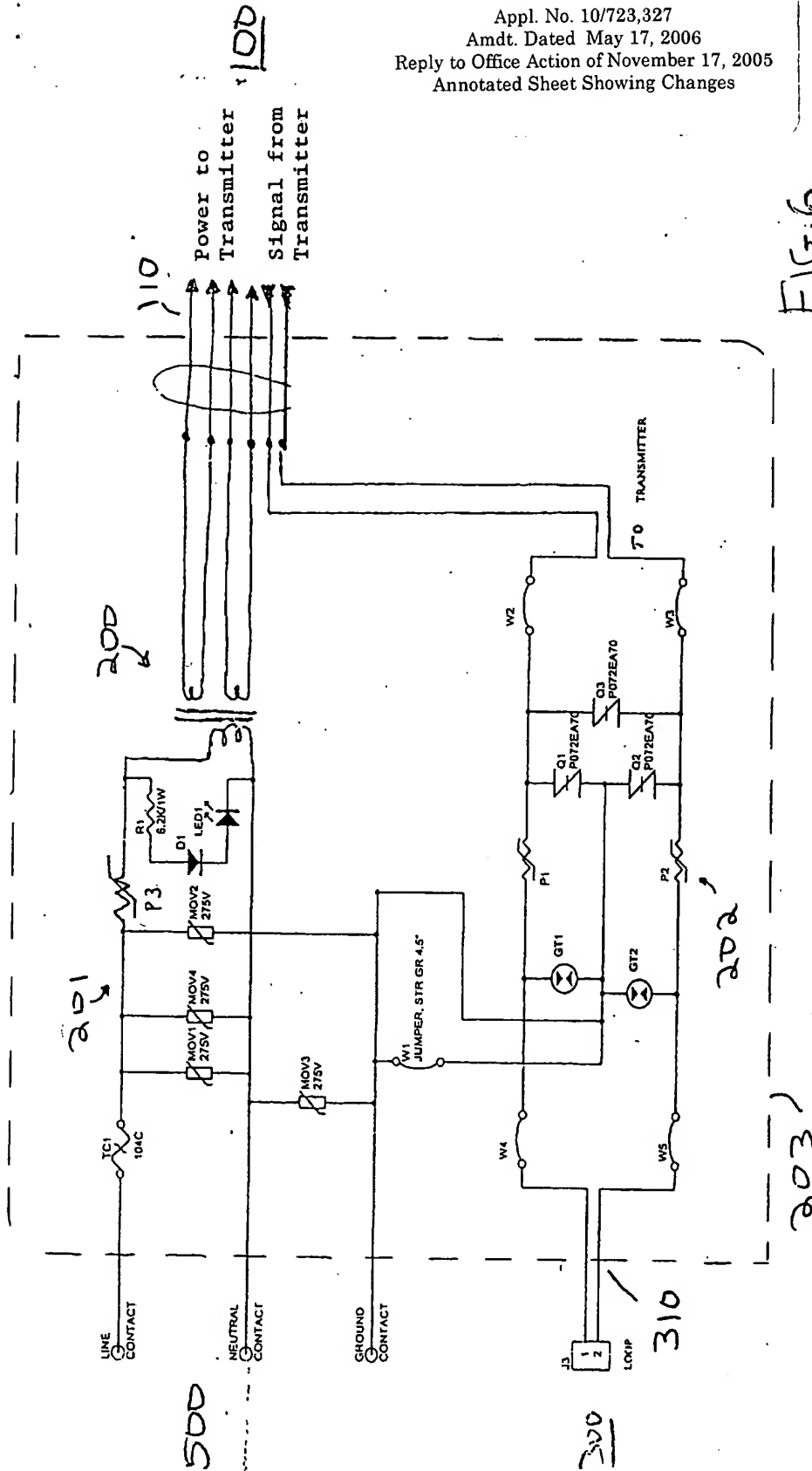


FIG. 6

"PRIOR ART"